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A STATISTICAL STUDY OF THE NEW BASKETBALL
RULE FOR 1963-64 REQUIRING THE OFFICIAL
CLOCK TO BE STOPPED AFTER EACH VIOLATION
(TITLE)

BY
Leslie L. Wothke

PLAN B PAPER

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE MASTER OF SCIENCE IN EDUCATION
AND PREPARED IN COURSE

Organization and Administration of Athletics, M.P.E. 475
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CHARLESTON, ILLINOIS

1964
YEAR

I HEREBY RECOMMEND THIS PLAN B PAPER BE ACCEPTED AS
FULFILLING THIS PART OF THE DEGREE M.S. IN ED.

June 9, 1964
DATE

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DATE

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CHAPTER I

INTRODUCTION

Statement of the problem. The problem concerned with in this study was to determine the effect, if any, of the rule change in collegiate basketball for the 1963-64 season. The 1963-64 rule that was under study stated that:

Time-out: Time out occurs and the game watch shall be stopped when an Official signals:

- (a) A foul;
- (b) A jump ball;
- (c) A violation;
- (d) Unusual delay getting a dead ball alive;
- (e) Granting a player;s request for a time-out, such request being granted only when the ball is dead or in control of a player of his team and when no change of status of the ball is about to occur;
- (f) Time-out for an injury;
- (g) Time-out for a conference with the Scorer or Timer or other emergency.¹

During the 1962-63 basketball season the game watch was stopped only after a foul, and during a jump ball. After other violations had taken place the game watch continued to run.

This study was undertaken to determine if this new rule had an effect on the length of the game compared to 1962-63, and other relevant statistics brought about because of the rule change.

¹ The Official National Collegiate Athletic Association Basketball Guide, The Official Rules Book and Record Book of Basketball, 1964. Report produced and distributed by National Collegiate Athletic Bureau (New York, 1964), p. 22.

Purpose of the study. Since the rule change which this study was concerned with was in effect for only one basketball season, there were no published studies available at this time pertaining to this subject. The writer of this paper felt that there was a need for such a study to be undertaken in order to determine the effect the rule change would have on the length of the games.

Delimitations of the problem. Four schools of the Interstate Intercollegiate Athletic Conference participated in this study. The fifth member school of the conference, Northern Illinois University, DeKalb, Illinois did not have anyone available to compile the necessary data. The participating schools were Eastern Illinois University, Charleston, Illinois; Western Illinois University, Macomb, Illinois; Illinois State University, Normal, Illinois; and Central Michigan University, Mt. Pleasant, Michigan.

Each of the participating schools kept the necessary data for each of their four home conference basketball games. Graduate assistants in the physical education department at each of the schools involved in the study kept time in the stands with an auxiliary clock according to the 1962-63 rule for keeping time. When the twenty minutes' playing time had elapsed in each half according to the 1962-63 rule, twelve sets of statistics were then kept pertaining to the events which occurred during the remaining time allowed due to the 1963-64 rule for keeping time.

Limitations of the problem. Since only four college basketball teams of the same conference participated in the study, and only data on sixteen games was included in the study, it cannot be assumed that the results from this study are conclusive evidence as to the affect the 1963-64 rule has in all collegiate basketball games. The type of basketball played varies from one section of the country to another, and consequently could have a direct bearing on the results of a similar study had the study been done in another section of the country.

Definition of terms. The terms listed and defined below are included in this paper, and must be defined in order for the reader to have a more thorough understanding of the content of this paper.

Auxiliary clock: A stop watch or Kodax Timer operated in the stands according to the 1962-63 rule.

1962-63 rule: Time-out: Time-out occurs and the game watch shall be stopped when an official signals:

- (a) A foul;
- (b) A jump ball;
- (c) Unusual delay getting a dead ball alive;
- (d) Granting a player's request for a time-out, such request being granted only when the ball is dead or in control of a player of his team and when no change of status of the ball is about to occur;
- (e) Time-out for an injury;
- (f) Time-out for a conference with the Scorer or Timer or other emergency.²

Games: Home varsity basketball conference games of the participating schools.

Conference: Interstate Intercollegiate Athletic Conference.

²The Official National Collegiate Athletic Association Basketball Guide, The Official Rule Book and Record Book of Basketball, 1963. Report produced and distributed by National Collegiate Athletic Bureau (New York, 1963). p. 23.

CHAPTER II

RELATED MATERIALS

The idea of stopping the official clock on all whistles and starting it again once the ball touched a player on court was discussed at the National Association of Basketball Coaches' meeting in 1958. At that time it was felt that a rule change that would enable a substitute to get into the game without delay was necessary. A vote was taken at that time to determine if the consensus of opinion was in favor of a rule of this nature, it was voted down 217 to 153.³ Another vote was taken at that time to determine if the coaches felt there was a need for a new rule enabling them to get a substitute into the game quicker, the voting on that was 277 "yes" to 90 "no".⁴ It was obvious at that time that the coaches were in favor of a rule change allowing them to get a substitute into the game quicker, but they were not in favor of stopping the clock on all whistles in order to get their substitute into the game.

At the National Association of Basketball Coaches' meeting in 1959, Edward Steitz made a report to the Research Committee concerning the time lost as a result of violations if the official clock was stopped each time the whistle was blown.

³The National Association of Basketball Coaches of the United States, The Bulletin, August 1958. p. 19.

⁴Ibid., p. 19.

The data for his study consisted of 94 varsity games played at the universities of Utah, Wichita, Wisconsin, and Springfield College. The following data was compiled:

1. 2,798 violations were recorded.
2. Average number of violations per game was 28.76
3. An average of 2 minutes 38.4 seconds was lost following violations. This approximates 6.5 per cent of the playing time.
4. An average of 5.52 seconds was lost during each violation called.
5. The most common violation was out of bounds. One minute 25.6 seconds was the average loss per game for out of bounds violations. This may be due to the fact that some institutions don't have netting around the court, etc.
6. Traveling was the second major cause of time loss. The average time lost per game on traveling violations was 44.6 seconds.
7. In summation, 238 seconds or a little more than 2½ minutes are used on the clock during violations.⁵

On the high school level it was predicted by the National Basketball Committee of the United States and Canada that the official clock would be stopped on the average of 28 more times a game than it was previously. The same committee also predicted that it would increase the actual playing time of the game perhaps 4 to 4½ minutes.⁶

⁵The National Association of Basketball Coaches of the United States, The Bulletin, November 1959. p. 20.

⁶National Federation of State High School Athletic Associations, Official 1961-62 Basketball Rules, (Chicago: National Federation of State High School Athletic Associations, 1961) p. 16.

CHAPTER III

METHOD OF RESEARCH

The method of research used for this study was statistical. A tally sheet was used on which the various data were recorded during the games. The graduate assistants who participated in the study each used the same type of tally sheet, and were instructed by the writer as to the proper method used for recording the data.

An instruction sheet for collecting the data was sent to the co-operating graduate assistants along with a sample tally sheet. It was recommended to the graduate assistants involved in the study that they keep the necessary data on at least one game previous to conference play in order to familiarize themselves with the necessary skills involved in keeping an accurate account of the data to be recorded.

At the completion of the scheduled conference play the data from each participating school were sent to the writer, who in turn compiled the combined statistics included in the study.

Selection of subjects. It was the original intent of the writer to include in the study all the varsity basketball teams in the Interstate Intercollegiate Athletic Conference. The head basketball coaches of their respective schools were contacted by telephone and asked to co-operate in the study, and an affirmative answer was received from each school. A

letter of confirmation was then sent to each of the respective coaches involved. However, Northern Illinois University, Dekalb, Illinois did not complete the study; consequently only four of the five member schools in the Interstate Intercollegiate Athletic Conference participated in and completed the study.

Each graduate assistant had an auxiliary clock in the stands which he operated according to the 1962-63 time-out rule. After the auxiliary clock had run for twenty minutes they marked on their tally sheet the amount of time still showing on the official clock. During the remaining time the assistants continued to operate their auxiliary clock, and also kept track of the following data:

- a. Shots attempted and made by home team after regulation play according to 1962-63 rule.
- b. Shots attempted and made by visiting team after regulation play according to 1962-63 rule.
- c. Fouls committed by home team after regulation play according to 1962-63 rule.
- d. Fouls committed by visiting team after regulation play according to 1962-63 rule.
- e. Free-throws made and missed by home team after regulation play according to 1962-63 rule.
- f. Free-throws made and missed by visiting team after regulation play according to 1962-63 rule.
- g. Score of home team after regulation play according to 1962-63 rule.

h. Score of visiting team after regulation play according to 1962-63 rule.

i. Final score of home team.

j. Final score of visiting team.

The data described above was collected during both halves of the game and totaled for the entire game.

CHAPTER IV

ANALYSIS OF THE DATA ACQUIRED

The subjects for this study were the varsity basketball teams at Eastern Illinois University, Western Illinois University, Illinois State University, and Central Michigan University. Each of these schools played four home conference basketball games during the 1963-64 basketball season. It was during these games that the data for this study was compiled. A total of 16 games were involved in the study.

Table I shows the averages and totals for the Eastern Illinois University varsity basketball team during their home conference games.

Table II shows the averages and totals for the Western Illinois University varsity basketball team during their home conference games.

Table III shows the averages and totals for the Illinois State University varsity basketball team during their home conference games.

Table IV shows the averages and totals for the Central Michigan University varsity basketball team during their home conference games.

Table V shows the combined averages and totals for the four varsity basketball teams involved in this study.

A key is necessary if the tables are to be understood. The letter M which appears in the total column for questions 1, 10, 11, 12, and 13 is a symbol meaning Mean or Average. The letter T which appears in the total column for questions numbered 2 through 9 is a symbol meaning total time or number.

On the Tables I, II, III, and IV the questions numbered 1 through 9 had their results carried to the nearest whole number. The results to numbers 10, 11, 12, and 13 were not carried to the nearest whole number. On Table V none of the results were carried to the nearest whole number.

TABLE I

EASTERN ILLINOIS UNIVERSITY

	<u>First half</u>	<u>Second half</u>	<u>Total</u>
1. Actual starting time of the game.	<u>7:59-8:31</u>	<u>8:46-9:25</u>	<u>M 1hr. 26min.</u>
2. Amount of time after regulation play according to 1962-63 rules left on official clock.	<u>2:41</u>	<u>3:09</u>	<u>T 5min. 50sec.</u>
3. Amount of time shown on auxiliary clock after regulation play according to 1962-63 rule.	<u>3:02</u>	<u>3:47</u>	<u>T 6min. 49sec.</u>
4. Shots attempted and made by home team after regulation play by 1962-63 rule.	<u>11 for 29</u>	<u>9 for 19</u>	<u>T 20 for 49</u>
5. Shots attempted and made by visiting team after regulation play by 1962-63 rule.	<u>7 for 20</u>	<u>7 for 15</u>	<u>T 14 for 35</u>
6. Fouls committed by home team after regulation play according to 1962-63 rule.	<u>5</u>	<u>5</u>	<u>T 10</u>
7. Fouls committed by visiting team after regulation play according to 1962-63 rule.	<u>2</u>	<u>8</u>	<u>T 10</u>
8. Free-throws made and missed by home team after regulation play by 1962-63 rule.	<u>2 for 3</u>	<u>9 for 14</u>	<u>T 11 for 17</u>
9. Free-throws made and missed by visiting team after regulation play by 1962-63 rule.	<u>2 for 6</u>	<u>8 for 10</u>	<u>T 10 for 16</u>
10. Score of home team after regulation play by 1962-63 rule.	<u>30</u>	<u>57</u>	<u>M 57</u>
11. Score of visiting team after regulation play by 1962-63 rule.	<u>30</u>	<u>59.5</u>	<u>M 59.5</u>
12. Final score of home team.	<u>36.75</u>	<u>63.75</u>	<u>M 63.75</u>
13. Final score of visiting team.	<u>35</u>	<u>65</u>	<u>M 65</u>

TABLE II

WESTERN ILLINOIS UNIVERSITY

	<u>First half</u>	<u>Second half</u>	<u>Total</u>
1. Actual starting time of the game.	<u>8:03-8:38</u>	<u>8:51-9:37</u>	<u>M 1hr. 34 min.</u>
2. Amount of time after 8 regulation play according to 1962-63 rules left on official clock.	<u>1:32</u>	<u>1:18</u>	<u>T 2min. 50sec.</u>
3. Amount of time shown on auxiliary clock after regulation play according to 1962-63 rule.	<u>1:45</u>	<u>1:21</u>	<u>T 3min. 6 sec.</u>
4. Shots attempted and made by home team after regulation play by 1962-63 rule.	<u>3 for 17</u>	<u>5 for 11</u>	<u>T 8 for 28</u>
5. Shots attempted and made by visiting team after regulation play by 1962-63 rule.	<u>6 for 11</u>	<u>6 for 17</u>	<u>T 12 for 28</u>
6. Fouls committed by home team after regulation play according to 1962-63 rule.	<u>2</u>	<u>5</u>	<u>T 7</u>
7. Fouls committed by visiting team after regulation play according to 1962-63 rule.	<u>10</u>	<u>7</u>	<u>T 17</u>
8. Free-throws made and missed by home team after regulation play by 1962-63 rule.	<u>5 for 14</u>	<u>6 for 11</u>	<u>T 11 for 25</u>
9. Free-throws made and missed by visiting team after regulation play by 1962-63 rule.	<u>2 for 3</u>	<u>4 for 9</u>	<u>T 6 for 12</u>
10. Score of home team after regulation play by 1962-63 rule.	<u>37.75</u>	<u>82.50</u>	<u>M 82.50</u>
11. Score of visiting team after regulation play by 1962-63 rule.	<u>38.75</u>	<u>79.75</u>	<u>M 79.75</u>
12. Final score of home team.	<u>40</u>	<u>87</u>	<u>M 87</u>
13. Final score of visiting team.	<u>42.25</u>	<u>84</u>	<u>M 84</u>

TABLE III

ILLINOIS STATE UNIVERSITY

	<u>First half</u>	<u>Second half</u>	<u>Total</u>
1. Actual starting time of the game.	<u>8:03-8:35</u>	<u>8:51-9:37</u>	<u>M 1hr. 34min.</u>
2. Amount of time after regulation play according to 1962-63 rules left on official clock	<u>1:33</u>	<u>1:06</u>	<u>T 1min. 39sec.</u>
3. Amount of time shown on auxiliary clock after regulation play according to 1962-63 rule.	<u>1:36</u>	<u>1:16</u>	<u>T 1min. 52sec.</u>
4. Shots attempted and made by home team after regulation play by 1962-63 rule.	<u>4 for 14</u>	<u>1 for 6</u>	<u>T 5 for 20</u>
5. Shots attempted and made by visiting team after regulation play by 1962-63 rule.	<u>3 for 11</u>	<u>5 for 11</u>	<u>T 8 for 22</u>
6. Fouls committed by home team after regulation play according to 1962-63 rule.	<u>4</u>	<u>4</u>	<u>T 8</u>
7. Fouls committed by visiting team after regulation play according to 1962-63 rule.	<u>2</u>	<u>7</u>	<u>T 9</u>
8. Free-throws made and missed by home team after regulation play by 1962-63 rule.	<u>0 for 2</u>	<u>8 for 10</u>	<u>T 8 for 12</u>
9. Free-throws made and missed by visiting team after regulation play by 1962-63 rule.	<u>1 for 3</u>	<u>0 for 4</u>	<u>T 1 for 7</u>
10. Score of home team after regulation play by 1962-63 rule.	<u>30</u>	<u>65</u>	<u>M 65</u>
11. Score of visiting team after regulation play by 1962-63 rule.	<u>32</u>	<u>74</u>	<u>M 74</u>
12. Final score of home team.	<u>33</u>	<u>67</u>	<u>M 67</u>
13. Final score of visiting team.	<u>34</u>	<u>76</u>	<u>M 76</u>

TABLE IV

CENTRAL MICHIGAN UNIVERSITY

	<u>First half</u>	<u>Second half</u>	<u>Total</u>
1. Actual starting time of the game.	<u> </u>	<u> </u>	<u>M 1hr. 30min.</u>
2. Amount of time after regulation play according to 1962-63 rules left on official clock.	<u>1:24</u>	<u>1:54</u>	<u>T 3min. 18sec.</u>
3. Amount of time shown on auxiliary clock after regulation play according to 1962-63 rule.	<u>1:53</u>	<u>2:19</u>	<u>T 4min. 12 sec.</u>
4. Shots attempted and made by home team after regulation play by 1962-63 rule.	<u>5 for 14</u>	<u>6 for 21</u>	<u>T 11 for 35</u>
5. Shots attempted and made by visiting team after regulation play by 1962-63 rule.	<u>5 for 13</u>	<u>8 for 26</u>	<u>T 13 for 39</u>
6. Fouls committed by home team after regulation play according to 1962-63 rule.	<u>5</u>	<u>6</u>	<u>T 11</u>
7. Fouls committed by visiting team after regulation play according to 1962-63 rule.	<u>5</u>	<u>8</u>	<u>T 13</u>
8. Free-throws made and missed by home team after regulation play by 1962-63 rule.	<u>4 for 6</u>	<u>10 for 13</u>	<u>T 14 for 19</u>
9. Free-throws made and missed by visiting team after regulation play by 1962-63 rule.	<u>3 for 4</u>	<u>3 for 8</u>	<u>T 6 for 12</u>
10. Score of home team after regulation play by 1962-63 rule.	<u>40</u>	<u>81.5</u>	<u>M 81.5</u>
11. Score of visiting team after regulation play by 1962-63 rule.	<u>33</u>	<u>67</u>	<u>M 67</u>
12. Final score of home team.	<u>43.75</u>	<u>87</u>	<u>M 87</u>
13. Final score of visiting team.	<u>36.25</u>	<u>71.75</u>	<u>M 71.75</u>

TABLE V

COMBINED AVERAGES AND TOTALS

	<u>First half</u>	<u>Second half</u>	<u>Total</u>
1. Actual starting time of the game.	<u> </u>	<u> </u>	<u>M 1hr. 31min.</u>
2. Amount of time after regulation play according to 1962-63 rule left on official clock.	<u>1:32</u>	<u>2:07</u>	<u>T 3min. 39sec.</u>
3. Amount of time shown on auxiliary clock after regulation play according to 1962-63 rule.	<u>1:57</u>	<u>2:18</u>	<u>T 4min. 15sec.</u>
4. Shots attempted and made by home team after regulation play by 1962-63 rule.	<u>5.75-18.50</u>	<u>5.25-14.25</u>	<u>T 44-131</u> <u>M 11-32.50</u>
5. Shots attempted and made by visiting team after regulation play by 1962-63 rule.	<u>5.25-13.75</u>	<u>6.50-17.25</u>	<u>T 47-124</u> <u>M 11.75-31</u>
6. Fouls committed by home team after regulation play according to 1962-63 rule.	<u>4</u>	<u>5</u>	<u>T 36 M 9</u>
7. Fouls committed by visiting team after regulation play according to 1962-63 rule.	<u>4.75</u>	<u>7.50</u>	<u>T 49 M 12.25</u>
8. Free-throws made and missed by home team after regulation play by 1962-63 rule.	<u>2.75-6.25</u>	<u>8.25-12</u>	<u>T 44-73</u> <u>M 11-18.75</u>
9. Free-throws made and missed by visiting team after regulation play by 1962-63 rule.	<u>2-4</u>	<u>3.75-7.75</u>	<u>T 23-47</u> <u>M 5.75-11</u>
10. Score of home team after regulation play by 1962-63 rule.	<u>34.50</u>	<u>71.50</u>	<u>M 71.50</u>
11. Score of visiting team after regulation play by 1962-63 rule.	<u>33.50</u>	<u>70</u>	<u>M 70</u>
12. Final score of home team.	<u>38.25</u>	<u>76.25</u>	<u>M 76.25</u>
13. Final score of visiting team.	<u>36.75</u>	<u>74.25</u>	<u>M 74.25</u>

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In essence the writer feels that the study accomplished what it intended to accomplish. It was discovered that the rule in question does have a slight effect on the length of the game, but it does not have as much of an effect as had been assumed by many. The study that was conducted verified what the National Basketball Committee of the United States and Canada had predicted when the new rule was first put into effect. They predicted that the games would be increased in actual playing time between 4 and $4\frac{1}{2}$ minutes. The writers' study showed an increase of 4 minutes and 15 seconds playing time on the average for each game included in the study. The writers' study did show a slight increase in the actual playing time compared to Mr. Edward Steitz's study which showed an increase of a little more than $2\frac{1}{2}$ minutes.

The writer feels that more studies concerning this rule should be conducted in order to gain more conclusive results than can be obtained from a sampling of 16 games. The writer also feels that these studies should be conducted in all areas of the country and on all levels of competition. The more violations that a team commits the more effect this rule is going to have on the game. The conclusions that can be drawn from this is that less skilled teams than those involved in this study would commit more violations and consequently

add more actual playing time to the game.

If other studies similar to this one are conducted, and the results are similar to those concluded in this study, the writer feels that certain alterations in the present basketball rules should be considered. The writer feels that consideration should be given to the idea of increasing the number of personal fouls that a player may commit before he must leave the game. The idea of increasing the number of team fouls that must be committed before the opposing team is awarded the bonus free-throw should also be taken into consideration. If the new rule is proven to add between 4 and $4\frac{1}{2}$ minutes to the actual playing time of each game, the writer feels that the other rules which are directly affected by this new rule should be altered to meet the new situations brought about because of the rule change.

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